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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/784,999	02/15/2001	Hisamitsu Shizuno	3158/FLK	4056

7590 11/06/2003

Katten Muchin Zavis Rosenman
575 Madison Avenue
New York, NY 10022

EXAMINER	
TUGBANG, ANTHONY D	
ART UNIT	PAPER NUMBER
3729	

DATE MAILED: 11/06/2003 8

Please find below and/or attached an Office communication concerning this application or proceeding.

N K

Office Action Summary	Application No.	Applicant(s)	
	09/784,999	SHIZUNO ET AL.	
	Examiner	Art Unit	
	A. Dexter Tugbang	3729	

-- The MAILING DATE of this communication appears on the cover sheet with th correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 March 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) *8-15* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

1. The previous Office Action (Paper No. 6) has been withdrawn due to the incorrect Group of Claims (Group II, Claim 8-15) being examined. It is noted that the applicants' elected the invention of Group I, Claims 1-7, in Paper No. 5.

2. Applicant's election with traverse of the invention of Group I, Claims 1-7 in Paper No. 4 is acknowledged. The traversal is on the ground(s) that Claim 8 has been amended in an attempt to have the method form the multiplayer element of Claim 1. Thus, Groups I and II should be examined. This is not found persuasive because, the final structure of the product of Group I is still not limited to the method steps recited in Group II. See MPEP § 2113. For example, the ceramic layers of Group I can be made by other techniques of coating or casting without any necessary steps of sintering. The requirement is still deemed proper and is therefore made FINAL.

Drawings

3. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

4. The abstract of the disclosure is objected to because the abstract is not directed to the claimed invention, i.e. process of making. Correction is required. See MPEP § 608.01(b).

5. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:
(1) if a machine or apparatus, its organization and operation;
(2) if an article, its method of making;
(3) if a chemical compound, its identity and use;
(4) if a mixture, its ingredients;
(5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

6. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: A Method of Manufacturing a Multilayer Displacement Element.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Maher 5,010,443.

Maher discloses a multiplayer displacement element comprising: a stacked plurality of ceramic layers and internal electrodes (see col. 3, lines 10-15), where each of the ceramic layers is composed of ceramic grains containing barium titanate as a major component (shown in Fig. 2).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maher in view of Burn 4,283,753.

Maher teaches the claimed manufacturing method as previously discussed and further including ceramic grains having an average diameter between 0.2-0.6 μm. Maher does not teach that the average diameter of the grains within the ceramic layers is equal to or larger than 3.5 μm.

Burn teaches that a multiplayer displacement element having barium titanate as a major component can have a crystal grain size where the average diameter is about 10 μm. One such benefit of having a displacement element with the above grain size diameter allows a very good charge balance and stoichiometry of ingredients of the displacement element (see col. 7, lines 35-49).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the ceramic grain size of Maher by having each grain with the diameter size taught by Burn, to advantageously provide a displacement element with very good charge balance and stoichiometry.

With regards to Claim 5, the relationship of those portions of one grain constituting one layer relative to the entire area of the ceramic layer is considered to be an effective variable within the level of ordinary skill in the art of ceramic layers formed in multiplayer displacement elements. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the grain portions of either Maher or Burn by providing those portions where one grain constitutes one layer are equal to or larger than 20% of the entire area of the ceramic layer, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

11. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maher.

As noted in Claim 5 above, the relationship of those portions of one grain constituting one layer relative to the entire area of the ceramic layer is considered to be an effective variable within the level of ordinary skill in the art of ceramic layers formed in multiplayer displacement elements. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the grain portions of Maher by provided those portions where one grain constitutes one layer are equal to or larger than 20% of the entire area of the ceramic layer, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

12. Claims 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maher in view of Sheard 3,872,360.

Maher, as relied upon above in Claims 1 and 3, discloses the claimed manufacturing method.

Maher does not teach that the internal electrodes are obtained by sintering nickel (Ni) powder as a major component.

Sheard shows that Ni powder is a conventional material to form internal electrodes by sintering for the benefits of having cheaper manufacturing materials (see col. 2, lines 45-50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Maher by utilizing the electrode material of Sheard, to positively provide cheaper manufacturing materials.

13. Claims 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maher in view of Burn, as applied to claims 1 and 2 above, and further in view of Sheard, for the same reasons set forth in Paragraph 12 above.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Dexter Tugbang whose telephone number is 703-308-7599. The examiner can normally be reached on Monday - Friday 7:00 am - 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 703-308-1789. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0858.

A. Dexter Tugbang
Primary Examiner
Art Unit 3729

October 28, 2003